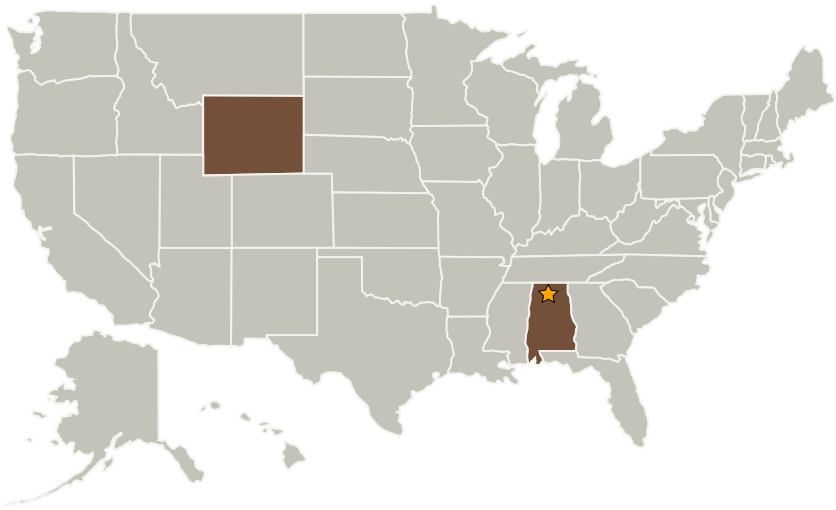
Low-Mass VOST Valve, Phase II

Completed Technology Project (2004 - 2006)

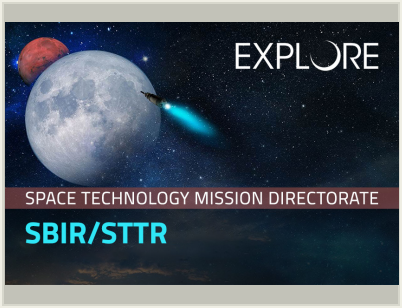
Project Introduction

Two low-mass, linear throttling, high-efficiency, leak-proof cryogenic valves of diameters 1/2" and 4" will be built and tested. Based upon cryogenically-proven Venturi Off-Set Technology (VOST) the valve has no stem-actuator, few moving parts, and an overall cylindrical shape. The valve geometry will help reduce launch vehicle complexity and facilitate assembly and testing. Reliability and safety will be enhanced due to the inherent simplicity and leak-proof design of the VOST valve. Potential NASA uses include launch, descent, and extraterrestrial use. Ground-based embodiments will benefit from enhanced thermal performance which will reduce recurring costs. Non-NASA uses include military and civilian aircraft, chemically corrosive industrial environments, superconductivity and medical applications.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Marshall Space Flight Center(MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
Big Horn Valve, Inc.	Supporting Organization	Industry	Sheridan, Wyoming



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
Alabama	Wyoming

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.1 Chemical Space Propulsion
    - TX01.1.1 Integrated Systems and Ancillary Technologies